JPRS-TTP-84-026

29 August 1984

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS-TTP-84-026

29 August 1984

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

CONTENTS

NEAR EAST/SOUTH ASIA

SUB-SAHARAN AFRICA

USSR

WEST EUROPE

EUROPEAN AFFAIRS

DENMARK

FRANCE

ICELAND

PORTUGAL

SWEDEN

WEATHER SATELLITE PREPARATIONS 'WELL ADVANCED'

HK170450 Beijing CHINA DAILY in English 17 Aug 84 p 1

[Article by staff reporter Zhu Ling]

[Text] Chinese meteorologists are moving into the space age with preparations for China's first weather satellite now well advanced. Three ground receiving stations equipped with Chinese electronics equipment are nearing completion in Beijing in the north, Guangzhou in the south, and Urumqi in the northwest.

The preparatory research program began in 1969, Yu Dechun, a spokesman for the Central Meteorological Bureau, told CHINA DAILY yesterday. The timing of the satellite launch has not been finalized, but Yu said: "The way things are going, we expect it to be soon." This was confirmation of a statement in April by Defence Minister Zhang Aiping who said China would launch a weather satellite in the near future.

Volatile weather condition--ranging from typhoon and drought to floods--can have a calamitous effect. This is why the government regards it as essential that the nation adopt the most advanced weather forecasting systems as early as possible. At the moment, more than 60 weather forecasting centers use Chinese-made equipment to receive weather pictures transmitted from U.S. and Japanese satellites. China already uses some 200 radar weather installations, more than any country in the world.

Since 1970, the weather bureau's coastal centers have been able to predict the arrival of every typhoon in time to warn farmers, shipping and coastal population. Across the country, there are 62,000 forecasters, nearly 300 meteorological centers and 2,662 weather stations. Their equipment in most cases, however, is of poor quality and needs to be updated, Yu said.

Modernization of meteorological work started in the early 1970s with the introduction of automation and computers. Progress in China's electronic industry has aided this development program. In the last two years, 12 small and medium-sized computers and more than 2,000 micro-computers have been stalled at meteorological centers.

Yu revealed that China is considering using giant high-speed computers, which can do more than 100 million calculations per second to supply accurate weather

forecasts from seven to 10 days ahead. "Currently, we can only provide accurate weather forecasts for three days ahead," Yu said.

The bureau is now selecting the best models from among advanced large computers manufactured at home and abroad. "We expect to put it into operation around 1990," Yu said. This year, meteorological centers in such cities as Beijing, Shenyang, Wuhan, Dalian and Guangzhou introduced a radio weather warning system on a trial basis provide regular and emergency weather forecasts to their customers.

CSO: 5500/4147

BRIEFS

SHANXI NEW COMMUNICATIONS LINE--An overhead optical fiber communication cable between the control center of the Yantong Electric Power Company and the 220,000-volt transformer station in the northern suburb of Datong City has been completely built and put into operation. This is the longest overhead optical fiber communication cable in China, 13 kilometers long, and was completely built in a period of 14 days. [Excerpts] [SK290441 Taiyuan SHANXI RIBAO in Chinese 28 Jun 84 p 1]

CSO: 5500/4141

NEW SATELLITE LINK TO OPEN

Wellington THE EVENING POST in English 23 Jul 84 p 2

[Text]

New Zealand's second satellite earth station will open at Warkworth, north of Auckland tomorrow after two years, work and at a cost of $14 million.

The new antenna stands 37m high and is sited 500m from the first one, erected in 1971. The earlier antenna is tuned to the Intelsat IV-A satellite, but is not compatible with the new generation of Intelsat V satellites due over the Pacific next year.

Intelsat V has double the capacity of the previous satellites with an ability to take two television channels and 12,000 telephone circuits.

However, both antennae will be needed in the coming months. This will enable television broadcasts of the Olympic Games from Los Angeles to be taken at the same time as other telecasts, such as daily news packages and the All Blacks' matches in Australia.

Because of the heavy bookings at the time, Intelsat will be employing two satellites to provide live television to countries in the Pacific area. The two satellites are four degrees apart on the equator, so two separate earth stations are needed to communicate with them.

Warkworth is one of 200 earth stations in the Intelsat system which is run by over 100 member countries and of which New Zealand has the 40th largest share.

Warkworth can only "see" the Pacific satellites and links to other countries outside this area is dependent on "hops" to Indian or Atlantic Ocean satellites or via submarine cable or land-based radio links.

Although New Zealand is using the latest in satellite technology, it still needs ocean cables. Later this year we will take part in the opening of the $500 million ANZCAN linking Australia, New Zealand, Fiji, Hawaii and Canada.

The Post Office says both cable and satellite are needed because diversity enhances the security of our international communications.

CSO: 5500/4401

ERICSSON TAKES AIM AT CANADA'S DATA TERMINAL, PBX MARKET

Ottawa THE CITIZEN in English 18 Jun 84 p 40

[Article by Gret Barr]

[Text]

TORONTO — Ericsson Comunications Inc. is taking aim at Canada's lucrative data terminal and private branch exchange (PBX) market — with a little help from home.

In this instance, home is parent company LM Ericsson of Stockholm, a household word throughout Europe in the field of data processing and telephone systems.

Last week, company officials from Sweden flew to Toronto to support the launch into data terminal and central office PBX markets by its revamped Canadian division.

Ericsson Communications, located in Mississauga is the Canadian arm of Ericsson Inc. of Greenwich, Conn.

Ericsson Inc. is a joint venture between Ericsson of Sweden and Atlantic Richfield Co. of Los Angeles.

Ericsson displayed its latest products, including the IBM-compatible Alfaskop family of data terminals, that will be sold by a new Canadian information systems group headed by general manager Bruce Bartlett.

The company also unveiled its new Alfaskop personal computer that was announced last September and will be available by this fall. Like several other IBM clones, the Alfaskop will offer more options than the IBM PC.

"The whole focus of Ericsson has been to evolve from a technology company to a marketing company, and we're very aware of the potential here (in Canada)," says Bo Linnell, vice-president of Ericsson Information Systems AB. "The North American market accounted for 11 per cent of our sales last year and is the fastest-growing market segment. But it won't happen overnight."

The latest thrust by Ericsson into Canada and the United States was forged last fall when the U.S. subsidiary hooked up with computer maker Honeywell Inc.

CSO: 5520/2

RESEARCH VENTURE FORMED TO DEVELOP GaAS SEMICONDUCTOR

Toronto THE GLOBE AND MAIL in English 29 Jun 84 p T6

[Article by Lawrence Surtees]

[Text]

Canada's largest private research organization has entered a $14.4-million research venture with the federal Government's lead research agency to develop gallium arsenide (GaAs) semiconductors for high-speed optical communications and digital memory uses.

Bell-Northern Research Ltd. of Ottawa, Ont., and the National Research Council will each chip in $7.2-million for the 42-month project, which is one of the first joint efforts between the two organizations, said John Elliott, BNR vice-president of corporate development.

GaAs semiconductors are much faster than silicon-based circuits, which cannot operate at transmission frequencies higher than 100 megahertz. Digital equipment with GaAs circuits would be able to send data faster and GaAs-equipped analog systems would be able to operate at higher frequencies.

"The development of gallium arsenide integrated circuit technology will maintain Canada's competitive position in telecommunications," BNR president John Roth said. "Because these circuits will operate at speeds about 10 times faster than those achieved using silicon technology, they will permit the enormous capacity of fibre-optic transmission systems to be fully realized."

As fibre-optic systems become more prevalent in telephone company networks, they will need faster switching capability that can only be offered by gallium arsenide circuits, Mr. Elliott said.

BNR has been working with GaAs circuit technology for several years in opto-electronic and laser systems but has not done any process development work. Under the agreement, BNR will work with researchers at NRC's new division of microstructural sciences and the Communications Research Centre of the federal Department of Communications.

Both CRC and NRC scientists have been involved in process development and other communication-related applications of GaAs circuits. CRC's work has centred on developing circuits for microwave, satellite and military communications equipment.

Mr. Elliott said BNR and NRC still have to iron out who will be doing what under the project. But the objective is to develop a workable GaAs production process and operating GaAs circuits for high-speed logic and memory devices.

There is no emphasis on seeking patents but that may be a byproduct of the work. Depending on the process and the rates at which GaAs is needed, BNR would then decide whether a separate production operation is required.

BNR is owned 70 per cent by Northern Telecom Ltd. of Mississauga, Ont., and 30 per cent by Bell Canada, the utility arm of Bell Canada Enterprises Inc. of Montreal.

CSO: 5520/2

BRIEFS

NEW TELEPHONE SYSTEM IN PARANA--Tomorrow Communications Minister Haroldo de Mattos will dedicate a new telephone system in Cascavel, Parana State, that will allow rural workers to share telephone lines outside urban areas. [Summary] [Brasilia Domestic Service in Spanish 2200 GMT 13 Aug 84 PY]

CSO: 5500/2066

BRIEFS

NEW AUTOMATIC EXCHANGE--Chuadanga July 4--Work on Chuadanga automatic telephone exchange, which began in January last year has been completed recently at a cost of Taka 73 lakh. The Exchange has provision for 400 connection. At present 220 connections are in operation. Meanwhile, works on three Exchange buildings at Bhreamara, Daulatpur and Alamdanga upazilas have been completed. They are expected to be put into commission soon. It may be mentioned here that although the automatic telephone exchange works at Chuadanga town were completed for the present. [Text] [Dhaka THE BANGLADESH TIMES in English 5 Jul 84 p 2]

CSO: 5500/0029

INDIA, PAKISTAN INFORMATION MINISTERS HOLD TALKS

New Delhi PATRIOT in English 9 Jul 84 p 1

[Text] Islamabad, July 8 (PTI, UNI)--India today unequivocally conveyed to Pakistan of its concern over adverse media coverage of events in Punjab and the two sides underscored the need for eschewing false propaganda.

Indian Information and Broadcasting Minister H.K. L. Bhagat during a 90-minute meeting with his Pakistani host gave specific instances of distorted coverage in Pakistan of the developments in Punjab.

Mr Haq's attention was drawn to specific Pakistan Television programmes, headlines and commentaries in newspapers and the treatment by WATTAN and JUNG in London.

Mr Bhagat said this kind of propaganda should be avoided.

The two countries took a significant step in media cooperation by deciding to promote the exchange of journalists and radio and television programmes.

An Indian spokesman said radio and television teams of both the countries would meet once in three months to review the progress in media cooperation.

Mr Bhagat stated this at the informal discussions, plenary talks as well as in public speeches.

Speaking later at a luncheon hosted by Mr Haq at which other Pakistani Ministers and senior officials and members of the diplomatic corps of other countries were also present, both Mr Bhagat and Mr Haq said the talks had resulted in positive results because there was a serious intention on both sides to improve ties and increase cooperation.

Mr Bhagat said he was happy that his visit had finally taken place after several postponements during the time of his predecessor.

The Minister said it was one of the legacies of the independent movement that India gave the highest importance to the principles of panchsheel, co-existence among neighbors, noninterference, and "live and let live."

He said a stable Pakistan was in the interest of India, since "a fire in a neighbor's house will definitely affect all around."

Mr Bhagat said if there was peace, then resources could be concentrated on the economic welfare of the people in the two countries. Every country has a right to its sovereignty and India has always accepted this, he emphasised.

At the outset, Mr Bhagat conveyed his gratitude to Mr Raja for praising in his welcome speech the role being played by Prime Minister Indira Gandhi as chairman of the nonaligned movement.

Earlier, in his welcome speech, Mr Haq said he was confident that Mr Bhagat's visit and the talks held would lay a strong foundation for friendship between the two countries. He said he appreciated Mr Bhagat's views on Pakistan which he expressed in India as well as on coming to Pakistan.

He noted that though it was unfortunate that little had been done to further friendship in 37 years, firm steps had been taken in the last seven years.

While the aim in every offer of friendship had self-interest in it, it should be based on the principle of sovereign equality, he said.

Briefing newsmen later at a news conference at which a Pakistani spokesman was also present, External Affairs Ministry Joint Secretary Mani Shankar Aiyar said the talks were generally on the theme of Mr Bhagat's opening remarks at the plenary talks that "India wants to go a very long way, the longest way possible in media cooperation."

Listing the decisions taken at the talks, Mr Aiyar said it had been decided to post correspondents of the All India Radio and the Pakistan Broadcasting Corporation in each other's country within one month. A decision was also taken to post at least one more newspaper or news agency correspondent in Pakistan (at present there is only one news agency correspondent here).

A decision had also been taken to decide within two months the radio and televsion programmes the two countries would like to exchange with each other.

It was also decided that there should be a meeting at an appropriate level alternately in India and Pakistan every three months of radio and TV teams to review the progress in mutual cooperation. There should also be a regular exchange of professionals like writers, story writers, and artistes between the two countries.

In addition, India invited 12 journalists from Pakistan to visit India. The invitation would be sent by the PRESS CLUB OF INDIA, and would be followed by a similar invitation by an appropriate body in Pakistan. There was also agreement on coproduction in the field of electronic media.

Mr Zafarul Haq also accepted an invitation by Mr Bhagat to visit India soon.

CSO: 555070026

NATIONAL TELEMATICS CENTER OPENS IN DELHI

Bombay THE TIMES OF INDIA in English 8 Jul 84 p 14

[Text] New Delhi, July 6--The national centre for the development of telematics, which has been charged with developing indigenous digital electronic switching systems, has started preparatory work even though the society is yet to be registered.

Some 40 technical persons have been brought together to form the core group of the centre. The engineers are from the telecommunications department and the Tata Institute of Fundamental Research, Bombay. Several more engineers from electronics laboratories and IITs are expected to join the centre which is to complete the Rs 36-crore project in about three years.

Since financial sanctions and establishment formalities take long time for setting up a new institution, ways have been found to minimise their impact. It is a project of national importance backed by political commitment at the highest level in view of the continuing imports of telecommunication equipment.

The government has specified that the project would lead to the production of indigenous switching systems in the phase following the current one which envisages production of these based on French technology.

For the national telematics project, the government has appointed Mr S.G. Pitroda, an Indian telecommunications engineer settled abroad as adviser.

Mr Pitroda, who holds over 50 worldwide patents in digital switching technology, told the Prime Minister, Mrs Indira Gandhi, as far back as in 1981 that India must find solutions to its telecommunication problems at home since its problems were location-specific.

Addressing a press conference, Mr Pitroda said India needed high-traffic capacity switching networks. India's telephone density was low and traffic high, he said.

The challenge of developing systems could easily be taken up by Indian engineers who had already proved their worth in this field in the international market he added.

CSO: 5550/0025

BRIEFS

STD WITH PORT BLAIR--Subscriber trunk dialling (STD) service via the satellite from Port Blair to main land is likely to become operational in the latter half of 1984-85, reports UNI. According to an official release, three more satellite earth stations will be set up in the Andamans at Campbell Bay, Diglipur, and Mayabunder. At present, there are two earth stations located at Port Blair and Car Nicobar. Meanwhile, the Posts and Telegraphs Department has finalised plans to expand the Port Blair telephone exchange from 900 lines to 1,100 lines and the Car-Nicobar exchange from 50 lines to 100 lines. [Text] [New Delhi PATRIOT in English 5 Jul 84 p 5]

COCHIN TELEVISION STATION--Cochin, July 4 (UNI)--The third television station in Kerala and the 51st in the country was inaugurated by Union Minister of State for External Affairs A.A. Rahim here today. The other two low power TV stations in Kerala were commissioned at Kozhikode and Trivandrum. Inaugurating the Cochin TV station, Mr Rahim said 78 percent of the population in Kerala would be covered by television by the end of October this year. Mr Rahim said Cannanore and Palghat would be put on the TV map in September and October respectively. He said the Cochin TV station would be converted to a high power transmission centre by the end of the year. [Text] [New Delhi PATRIOT in English 5 Jul 84 p 5]

TIRUPATI TRANSMISSION CENTER--Tirupati, July 6--Tirupati was brought into the national television network with the commissioning of a low power transmission centre that can cover an area within a radius of 25 km from the pilgrim town. The Tirupati centre is the first in a chain of 13 scheduled to be set up in Andhra Pradesh by the end of the year. Inaugurating the centre, Mr P. Venkatasubbalah, Union Minister of State for Home Affairs, said the Union Government had launched a massive programme to bring more area under television coverage. Mr Harirama Jogiah, Andhra Pradesh Minister for Information, presiding, complained about the inadequate television coverage of regional programmes and said that Doordarshan (controlled by the Centre) was biased towards non-Congress(I) ruled States. He alleged that the Director of Doordarshan, Hyderabad had been transferred as he had given a fairly good coverage to certain development activities launched by the State Government. In this context, Mr Jogaiah said he wanted the subject of Information and Broadcasting included in the concurrent list to give fair deal to all States alike. Mr Venkatasubbiah, however declined to say anything on the points raised by Mr Jogiah as he said he did not want to enter into any controversy on the auspicious occasion of commissioning the new transmission centre here. He wished that Mr Jogaiah had not raised the issue at all. [Text] [Madras THE HINDU in English 7 Jul 84 p 9]

TIRUCHI TELEVISION TOWER--Tiruchi, July 10--Tiruchi was today put on the Doordarshan map when Mr R. Venkataraman, Union Defence Minister, commissioned the TV tower at the AIR campus here, Mr R.M. Veerappan, Tamil Nadu Minister for Information, presided. Mr Venkataraman said television was a must for fostering national integration and it was no longer a luxury. He hoped that before the first half of the Seventh Plan period, Tamil Nadu would have 100 percent TV coverage. Mr Veerappan said TV was the only medium through which the gullible and unlettered people in the countryside could be made aware of the progress of the nation. He wanted the entire population to be covered by TV. Though Tamil Nadu had asked for ten centres to be covered by TV relay centres, only six had been taken up. The Chief Minister, Mr M.G. Ramachandran had given a blanket order to the officials and Ministers that whenever the Centre wanted infrastructural facilities for any of its projects, the State Government should provide them without any delay, Mr Veerappan said. Mr R.S. Sowdekar, director, Doordarshan, Madras, welcoming the gathering explained that the three-fold objective of Doordarshan was "imparting education, dissemination of information and entertainment." Mr M.I. Suryanarayana, Chief Engineer, AIR and TV, South Zone, presented a report, Mr V. Viswanathan, District Collector and Mr Doral Sebastian, MP, spoke on the need for TV covering the activities and success stories on the farm front in Tamil Nadu, Mr S. Subramony, Station Director, AIR, Tiruchi, proposed a vote of thanks. [Text] [Madras THE HINDU in English 11 Jul 84 p 9]

NELLORE TV RELAY--Nellore, July 11--Nellore was brought on the TV map of the country today with the commissioning of a Doordarshan relay centre by Mr K. Vijaya Bhaskar Reddi, Union Minister for Shipping and Transport at the Youth Centre building here. The centre would cover 25 km. The TV centre was a milestone in promoting national integration by bringing people of different States closer, the Minister said. Mr Ch. V. Harirama Jogayya, Andra Pradesh Information Minister, who presided, said that the State had given all facilities for setting up TV relay centres and thanked the Information Minister, Mr H. K.L. Bhagat for evincing keen interest in expanding the TV network. Dr B. Gopala Reddi, former Union Minister, appealed to the people to make full use of the Delhi Doordarshan programmes which were mostly in Hindi, to learn that language. Mr G. Naganathan, Director, South Zone AIR and TV, Madras, welcomed and thanked the district administration for enabling the commissioning of the centre ahead of schedule. [Text] [Madras THE HINDU in English 12 Jul 84 p 9)

NEW TV TRANSMITTERS--A TV transmitter was commissioned at Hissar today. This is the 71st TV transmitter in the country and the first in Haryana. The transmitter will serve nearly 6 lakh people over an area of 2,000 square km. [Excerpts] [Delhi Domestic Service in English 1530 GMT 22 Jul 84 BK] The 72d TV transmitter in the country was inaugurated by the minister of state for railways, Mr Jaffer Sherif, at Davangere in Karnataka today. It has a range of 2,000 square km and will cover a population of over 7 lakh in 100 villages. [Excerpt] [Delhi Domestic Service in English 1530 GMT 23 Jul 84 BK] A tv transmitter was commissioned today at Pathankot in Punjab. It is the 67th tv transmitter in the country. It will have a range of 2,000 square km and will cover a population of nearly 6 lakh. [Excerpt] [Delhi Domestic Service in English 1530 GMT 20 Jul 84 BK] Three more tv transmitters have been commissioned today. Tow of them are in the northern state of Uttar Pradesh and one in the southern state of Karnataka. They will have a range of 2,000 square km each. The transmitters will cover a population of nearly 2.5 million together. [Excerpt] [Delhi General Overseas Service in English 1330 GMT 21 Jul 84 BK]

CSO: 5500/4740

BRIEFS

KWANZA-SUL MICROWAVE SYSTEM--Work was begun Friday by a team of six Portuguese technicians from the Automatic Electric Telephone Exchange of Portugal to set up a microwave telecommunications system with 960 channels as part of a contract signed between that company and its Angolan counterpart, ENATEL-UEE [National Telecommunications Firm-State Electric Union]. A reliable source told ANGOP [Angolan News Agency] that the installation, scheduled to be completed in October, includes a room equipped with a group of batteries and their respective chargers, another containing radio transmission equipment and still another for power supplied by a set of 20-CVA generators which will guarantee emergency power if an unexpected short occurs in the city's electric circuit. This system will make it possible to establish telephone connections from Sumbe to Porto-Amboim, Gabela and Luanda and vice versa. A subsequent phase will result in improvement in the internal network system of the city's telephones made, up to now, with the aid of the telephone exchange whose operators are at times unable to cope with the requirements and urgency of the telephone calls. [Text] [Luanda JORNAL DE ANGOLA in Portuguese 7 Jun 84 p 3] 8568

KWANZA-NORTE MICROWAVE SYSTEM--A new telephone communications line of the microwave-system type was put into operation at the end of May, connecting Dondo with Luanda and N'Dalatando. An ENATEL source in N'Dalatando told ANGOP that this communications system operates in four semiautomatic transmission channels and makes it possible to have direct communication between Cambambe and Luanda and N'Dalatando and vice versa. The same source also said that the startup of this system has made it possible to overcome the constant breakdowns which occurred in the old system and which made communications between the various areas difficult. A direct communications system will also be installed in other areas of the province with the possibility of extending it to the municipalities of Golungo Alto and Ambaca. [Text] [Luanda JORNAL DE ANGOLA in Portuguese 10 Jun 84 p 1] 8568

CSO: 5500/91

ADB, OTHERS FINANCE TELECOMMUNICATIONS PROJECTS

Maputo NOTICIAS in Portuguese 15 Jun 84 p 1

> [Text] ADB and Nigeria Trust Fund financing reaches 1.285 million contos.
>
> In keeping with the program for expansion of the national telecommunications network which comprises various projects, Finance Minister Rui Baltazar signed finance agreements Wednesday in Maputo with the Afircan Development Bank and the Nigeria Trust Fund amounting to $31 million (approximately 1.285 million contos). This financing follows various others granted to our country by that sector and will be used in the areas of commutation and local networks in Beira and to revamp the present system of tropospheric communications.

All financing granted to our country in the field of telecommunications is aimed at implementing three projects--namely, that of the national network of communications via satellite, that of telecommunications development and that of revamping the present system of tropospheric communications.

"These three projects are all aimed at achieving greater communications coverage in the country, considering the distance between the principal urban centers and the broad expanse of the national territory," observed engineer Rui Fernandes, executive officer of the firm, Telecommunications of Mozambique, contacted on this subject.

Communications Via Satellite

In the specific domain of communications via satellite, a new national network will be constructed in the country as part of a contract signed on 30 March between Telecommunications of Mozambique and the French firm, TELESPACE.

The purpose of this project is to achieve considerable improvement in communications between Maputo, Beira and Nampula and simultaneously establish direct communication with neighboring countries, members of the SADCC [Southern African Development Coordination Conference], Malawi, Tanzania and Zimbabwe.

The total value of this project is 145 million French francs (870,000 contos), and financing is to come from the Central Fund for Economic Cooperation, the Kuwait Fund and French protocol.

New Communications Network

The telecommunicaitons development project, in turn, covers all of the southern area (Maputo, Gaza and Inhambane), the central area (Sofala, Manica and Tete) and the northern area (Nampula Province).

A complete system is involved, with totally new telephone exchanges and networks and calling for the revamping, modernization and expansion of the telephone networks and thus doubling the country's telephone coverage.

To implement this project, Mozmabique signed a contract in January with the Arab Bank for Economic Development in Africa (BADEA) in the amount of $10 million (400,000 contos).

Revamping of the Tropospheric System

The tropospheric telecommunications network presently provides connections with Maputo, Beira, Tete, Songo and Quelimane. The revamping project is aimed at improving communications and also connections with the Nampula station which never got into operation.

For this project Italy granted our country financing in the amount of $55 million (about 2.2 million contos) which will be used in the areas of commutation, transmission, local networks, training and supervision of the project.

The Italian firm chosen as the principal contractor for this project was ITALCOM which is a consortium of three major companies in the field of telecommunications. These are specifically ITALTEL, GTE and TELETTRA. It will carry out the project jointly with Mozambican companies in the civil construction sector.

8568
CSO: 5500/91

NEW COMMUNICATIONS SYSTEM DEVELOPED

Pretoria SOUTH AFRICAN DIGEST in English 13 Jul 84 p 8

[Text]

A South African research team, in conjunction with international engineers, has developed a communications system which promises to bring about a breakthrough in short-to-medium-range data transmission.

Tests conducted by the local team, headed by the vice-chairman of Grinaker Electronics Holdings, Mr Dave Larsen, have yielded consistently excellent results, and organisations in both the public and private sectors have expressed interest in the system's potential.

Known as meteor-burst communication, the new technology relies on the phenomenon of reflecting radio waves off the ionised trails left by micro-meteors (about the size of grains of sand) as they enter the earth's atmosphere and burn up. Billions of meteors large enough to give usable trails penetrate the upper atmosphere every day.

The system developed to utilise this phenomenon consists of one or more master and remote stations. When a meteor trail appears in the proper location, the master station transmits a continuous coded signal to the receiving remote station.

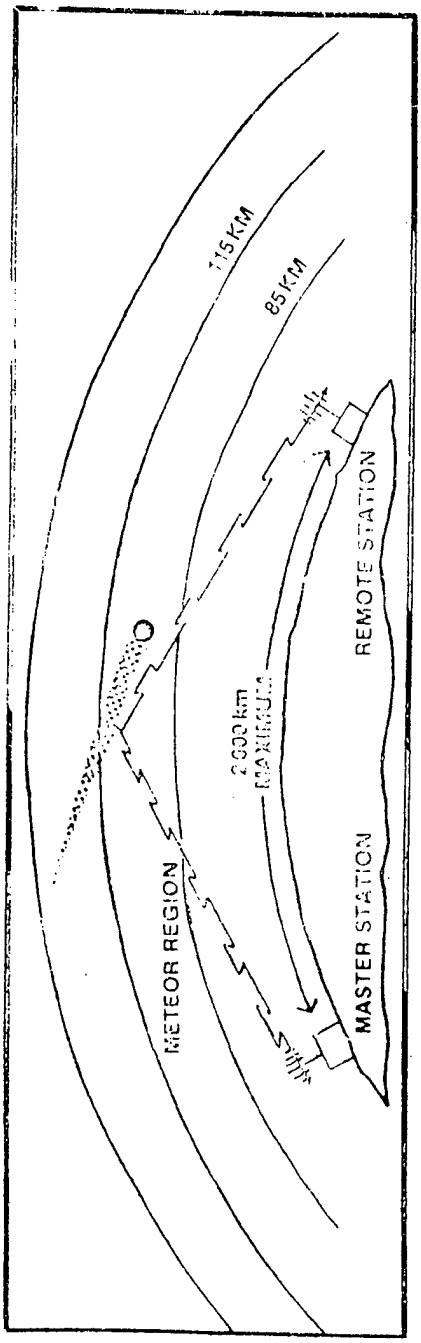
The remote station decodes the signal, and reflects a signal back to the master station.

All this takes place in the space of tens of milliseconds, the typical lifespan of a grain-sized meteor trail. The transmission, therefore, consists of bursts of high-rate data transmissions of 10 to hundreds of characters, separated by periods of silence. The exchange of information can be in any direction. It can consist of short messages such as sensor-data readout, coded messages of up to several hundred characters, text messages of a few words or long messages achieved by the splicing together of the transmissions of successive bursts.

In these applications, Mr Larsen said, average throughputs of about 50 words a minute are achieved between a master and a single remote station. With multiple outstations, this data rate could be multiplied for each outstation. The message handling capability of a single base station could then become many thousands of words a minute.

One important by-product of the burst characteristic is the ability of many links to share a common transmission frequency.

The maximum length of a single link is about 2 000 km. Meteor-burst communications systems can be used effectively for ranges of up to 2 000 km. For extended ranges, relay stations can be employed using data store-and-forwards techniques.



CSO: 5500/98

CONTROVERSY OVER BLOCKAGE OF BOP-TV SIGNALS

Johannesburg THE CITIZEN in English 26 Jul 84 p 6

[Editorial: "Row Goes On"]

[Text] THE South African Broadcasting Corporation can cross its heart and hope to die over Bop-TV, but it is not going to satisfy irate viewers that it hasn't interfered with reception from this popular TV service.

In some areas Bop-TV could be picked up, and now it can't be. And the experts say that the SABC has cut down Bop-TV spillage by blocking the signal from White viewers.

The refusal of the SABC to discuss the matter any further, or to receive any further representations on the subject, is not making viewers any better disposed towards the SABC.

Nor will the controversy go away simply because the SABC refuses to answer the complaints.

In a strict legal sense, the SABC can quote chapter and verse to show it is within its rights and undertakings.

The SBAC's Director-General, Mr Riaan Eksteen, has pointed out that the agreements under which the SABC provides a service to Bophuthatswana, to enable Bop-TV to reach certain target areas, impose no obligation on the SABC to persons outside the target areas--the spillage areas.

"When the letter and spirit of the agreements have been put into effect, there will be no more spilling.

"For that reason the SABC, on December 29 and 30 1983, warned that the reception of Bop-TV in those areas was purely incidental and that its continuation now or in the future could not be taken for granted."

Mr Louis Nel, the Deputy Minister of Foreign Affairs and Information, after receiving a petition calling on the Government to stop blocking the spillage, said Bop-TV was beamed to target areas in South Africa to enable the Bophuthatswana Government to "communicate with its own people.

"At no time was it intended, or did the Bophuthatswana Government request, that the signal of Bophuthatswana television be relayed to areas outside the agreed target areas."

However, we have still not heard any Bophuthatswana Minister, or Bop-TV official, telling disappointed viewers that Bophuthatswana doesn't really want them to see Bop-TV.

And if Bop's Radio 702 is able to broadcast without hindrance (it is one of the most popular radio stations in South Africa), there seems no reason why Bop-TV should be confined to Black target areas.

The answer to Bop-TV's competition is to make SABC-TV just as, or even more, entertaining.

Meanwhile, the controversy goes on, and it is the SABC's image that is tarnished by it.

CSO: 5500/98

'RADIO TRUTH' OPERATION TERMED 'ILLEGAL'

Johannesburg THE STAR in English 2 Aug 84 p 10

[Article by Stephen McQuillan]

[Text] Renegade radio operators beaming propaganda from the Transvaal are breaking South African and international law.

Transmissions the BBC brand as hostile to the governments of Angola and Zimbabwe are being broadcast on 4902 and 4950 kilohertz.

But no one should be using those frequencies in South Africa, a spokesman for the Post Office's radio section said. The BBC says the transmissions emanate from the Transvaal.

The spokesman said there are no records of licences for broadcasting on the two frequencies.

Frequencies had to be registered with the Post Office.

A spokesman for the Geneva-based International Telecommunications Union told 24 Hours their information was supplied by governments around the world for frequency registration.

"The 4902 frequency could be allocated to anyone at Pretoria's discretion, provided the union was notified and that a new signal did not interfere with an existing one," he said.

"Many countries are using this frequency and international regulations require that any government informs the union of intentions to use a particular frequency."

The Post Office spokesman said the countries registered to use 4902 kilohertz included China, Argentina, France, Japan, Poland and Mozambique.

The nearest station using the frequency was Radio Clube, based at Quelin [word indistinct] in Mozambique.

The International Frequency Registration Board's list for 4950 kilohertz covered about 200 entries from countries including the Soviet Union, China, Egypt and Kenya.

Mr John Chadwick, acting assistant editor for news and publications for the BBC Monitoring Service, said: "At the moment we are not able to monitor Radio Truth. We can only hear the carrier waves, not what's being said. But we are sure it can be heard in Zimbabwe."

Radio Truth's initial broadcasts described Zimbabwe as "just another tin-pot dictatorship" and compared Prime Minister Mr Robert Mugabe with Idi Amin.

One of the station's first broadcasts said: "There is little doubt that the seeds of a new and even more violent war have been sown by Robert Mugabe and he is shortly to reap the harvest."

Zimbabwe's Minister of Information Dr Nathan Shamuyarira said last February his country would be forced to retaliate if South Africa did not end its subversive broadcasts.

CSO: 5500/99

BRIEFS

FOURTH TV CHANNEL--REPORTS that the BOP-TV blackout could lead to the advanced introduction of a fourth SABC-TV channel were described yesterday by a spokesman for the corporation as "utter nonsense". Although SABC admitted that a fourth channel is a logical extension of the current service no final decision regarding its introduction has yet been made. It is in such an early planning stage; said Mr Willie Visagie of Public Relations, that there is as yet nothing to divulge, let alone decisions as to what kind of programmes it will comprise, or what its viewing hours would be. Mr Visagie added that the report which appeared in an afternoon newspaper was pure speculation and possessed no officially approved facts. Several suggestions have been speculated on by viewers and the media as to what the new channel four would consist of. The most popular being "splitting" the current TV1 service into two, resulting in one Afrikaans channel and one English channel. A rumour currently circulating the corridors of Auckland Park refutes the popular speculation in favour of SABC introducing a separate educational channel. [By Zanne Greyvensteyn] [Text] [Johannesburg THE CITIZEN in English 24 Jul 84 p 10]

TECHNOLOGY SHARED WITH HOMELANDS--The independent Black homelands are to share in South Africa's sophisticated new telephone technology. This was decided at a recent meeting of the Interstate Technical Committee on Posts and Telecommunications, of which the postmaster generals of South Africa, Transkei, Bophuthatswana, Venda and Ciskei are members. The five states discussed the planning and management of telecommunication networks, future switching systems, equipment for the rural areas, and training of technical staff. The meeting recommended that advanced electronic exchanges should take the place of the present manually-operated or electro-mechanical exchanges. According to a Post Office spokesman, it is now phasing in a super-modern type of telephone exchange which takes a tenth of the space of an electro-mechanical exchange. Called a digital exchange, it dissects the human voice into a series of impulses which are transmitted separately and put together again at the receiving end. [Text] [Pretoria SOUTH AFRICAN DIGEST in English 13 Jul 84 p 8]

CSO: 5500/98

U.S. NEWS SERVICES SEEK DIRECT SATELLITE BROADCASTS

LD262300 Moscow TASS in English 1940 GMT 26 Jul 84

[Text] Washington, July 26, TASS--The U.S. information services that are trying to monopolise still more the flow of information to developing countries are urging the Reagan administration to support the efforts for the development of systems of direct broadcasting from satellites to territories of other countries.

Speaking at hearings in one of the subcommittees of the Energy and Commerce Committee of the house, a leading official of one of the information services of the USA demanded that international and internal rules of the use of the existing system of commercial and communications satellites for direct broadcasting to customers in Latin America and the Caribbean basin operating now be abrogated at an early date.

That representatives said that the sale of information to countries of the region brought to the UPI news agency up to seven million dollars in profit in 1983. However, he asserted, for further widening of operations in the region, major U.S. information monopolies would like to use communications systems making it possible to receive information directly from satellites to antennae with a diametre of less than one metre.

Without trying in any way to conceal the political colouring of the question of direct television broadcasting, the same representative stated outright that it will enable the U.S. mass media to compete more successfully with such progressive information services having influence in the region as the Cuban news agency PRENSA LATINA, the news agency NUEVA NICARAGUA and the news services of Iraq, Libya, the PLO, India and Yugoslavia.

CSO: 5500/1027

PROSPECTS FOR THE DEVELOPMENT OF RADIO COMMUNICATIONS AND TELEVISION DISCUSSED

Moscow VESTNIK SVYAZI in Russian No 4, Apr 84 pp 2-3

[Article by A. M. Varbanskiy, Chief of the Main Administration of Space and Radio Communications, USSR Ministry of Communications]

[Text] During the period of the accelerated development of the national economy, the demand for communication services is steadily growing. Such means of mass information as television and radiobroadcasting (wire and wireless) and radio communications are becoming particularly important.

The needs of the national economy and the population in these types of communication can be satisfied more fully by new technical solutions and introduction of new equipment ensuring a substantially better quality of operation, reduction of the service personnel and an increase in their labor productivity.

The most important direction in the development of television broadcasting (TV) is the improvement of the network of the distribution and transmitting facilities whose technical level and volume determine the percentage of the population covered by TV facilities and number and quality of TV programs received in various parts of the country.

At the present time, television broadcasting of the first program of the Central Television Station (TsT) has been organized with the aid of these television broadcating facilities for the residents of five zones, and of the second program -- for four zones of the country. Republican and oblast broadcasting networks have been created.

An important role in the development of TV was played by the space communication facilities "Orbita", then "Ekran" and "Moskva" which made it possible to relay TsT programs over the entire territory of the country and to organize their reception in its remotest parts. The next step is to develop a new frequency band of 12 GHz which has been specially assigned for satellite television distribution systems. This will make it possible to relay not only central TV programs, but also republican, kray and oblast programs to those region where the development of the traditional ground television channels is practically impossible.

In order to expand the network of two-program TV broadcasting, it is planned to reconstruct a number of the operating stations and to increase substantially

the network of low-power relay stations, particularly those receiving program signals via space communication lines.

The improvement of the operating equipment of transmitting television stations is just as important. For example, by improving the quality indexes of equipment practically without its replacement with new equipment, it was possible to ensure the relaying of color television signals over the entire operating network which had been created for transmitting black-and-white television signals. Now we have to improve the operation stability of the equipment of the transmitting television stations. This is the basic condition for the transition to automation and unattended mode of operation not only of individual radio transmitters, but also stations and television networks. Just as before, the leading role in solving this problem belongs to the operating personnels of stations.

Scientists are now working on a stereophonic sound system for television. Although stereophonic reception of sound is limited due to small dimensions of the television screen, it should be expected that stereophonic sound will still find application in TV.

It is planned to develop a compatible system which does not require an additional sound channel. The modern level of the development of digital techniques and microelectronics makes it possible to accomplish the transmission of sound signals in the television signal spectrum. In this case, one sound signal can be transmitted through the operating sound channel, and the second signal -- by the digital method in the composition of the television signal. It is possible to transmit both signals by the digital method in the spectrum of the television signal and to duplicate the monophonic signal through the operating channels. The second method is preferable because it makes it possible to eliminate the sound channel from television transmitters later after the depreciation of the existing stock of television receivers. For this, simultaneously with the introduction of the stereophonic sound system, it will be necessary to produce all television receivers with a digital sound channel, stereophonic or monophonic.

The main problems in the area of radiobroadcasting are the increase of the number of transmitted programs and the improvement of their audibility in the conditions of the ever increasing noise level. Just as before, these problems are being solved on the basis of the integrated use of both wireless and wire broadcasting. Along with the construction of individual powerful radio stations operating on the long and medium wave bands, synchronous networks will be expanded. The network of four-program radiobroadcasting in the metric wave band (MV) with signal frequency modulation (ChM) will be developing simultaneously with the television network.

With the introduction of mass distribution systems of space communication of the "Ekran" and "Moskva" types which have a television and a radiobroadcasting channels, it became possible to distribute central radiobroadcasting programs simultaneously with television signals. Thus, the practice of simultaneous development of the network of powerful TV and ChM radiobroadcasting stations which has proved its value will spread to low-power stations.

A fundamentally new system is being developed now for digital radiobroadcasting which makes it possible to transmit simultaneously through one transmitter signals of several radiobraodcasting programs with a very high quality, to use the radio receiver without a retunable VCh [high-frequency] channel and to introduce a number of additional services. For example, it is possible to program a radio receiver for a program of a certain nature, for example a musical program, and it will be automatically switched to that station which has such a program at the moment. The modern level of the development of digital techniques and microelectronics will make it possible to solve this problem and to produce radio receivers at moderate prices.

Stereophonic radiobroadcasting through the existing MV-ChM stations will be developed further. In order to expand its relay zone, it will be necessary to create networks of intercity channels.

Along with increasing the power and improving the operating stability of radio transmitting equipment, it is necessary to make it more economical. This problem is of paramount importance if we consider that radio enterprises are responsible for the larger part of energy consumption in the total balance of energy consumption by the enterprises of the USSR Ministry of Communications.

In order to lower power consumption, a biharmonic operation mode of radio transmitters of long and medium waves will be introduced, the heat released during the cooling of radio tubes and equipment will be used for heating buildings and greenhouses, old equipment will be replaced with new equipment, radio tubes will be replaced with transistors, etc. Low-power medium-wave transmitters which are installed primarily at transmitting television stations will be converted to the unattended mode of operation.

At the present time, the stock of radiobroadcasting equipment has become so large that it is possible to manage it effectively only with the aid of modern computers. This problem will be solved by the Automated Control System for Radiobroadcasting and Main-Line Radio Communication Facilities ("ASU-TP-Radio") which will also plan the operation of radio facilities and monitor the condition of the network. The calculation of frequency schedules and arrangement of equipment are done now with the aid of electronic computers.

Automation and remote control systems for wire broadcasting (PV) equipment are being introduced actively, which makes it possible not only to reduce the size of the service personnel, but at the same time to increase the length of programs. In order to reduce the volume of external plants which require large material and, chiefly, manpower resources for their development, the structure of PV networks is being improved.

The demand for three-program broadcasting is increasing in cities and rural areas. The possibility of transmitting several radiobroadcasting programs through telephone networks is being studied. Apart from the development of technical solutions, it is necessary to define precisely the place of the system of wire broadcasting via telephone networks in the overall broadcasting network, since loudspeakers for broadcasting ensuring a high quality and stereophonic sound (the introduction of the service should be examined only under this condition) will be substantially more expensive.

The development of radio communications is carried out on the basis of the existing radio centers. For shortwave main-line radio communication, a new equipment for frequency division of radio channels (AURK) has been developed. It makes it possible to organize as many as twenty-four telegraph channels through one radio channel. Remote control from control centers for large groups of radio transmitters and radio receivers will be used widely, which will make it possible to reduce substantially the size of the service personnel.

Satellite communication, whose development is closely connected with many other types of telecommunication, is now used most effectively for transmitting circular information. This unique property will be used widely for the distribution of television programs, as well as for the spreading of such circular information as radiobroadcasting programs and phototelegraphic signals of images of newspaper pages.

Intercity telephone and telegraph satellite channels will be developed further, including those based on a new channel-forming equipment with a greater traffic capacity.

10,233
CSO: 5500/1021

GROWTH IN KAZAKH TELECOMMUNICATIONS NETWORK OUTLINED

Alma-Ata AGITATOR KAZAKHSTANA in Russian No 8, Apr 84

[Article by S. Bayzhanov, Kazakh SSR Minister of Communications: "When the Far Away is Near"]

[Text] The mail, telegraph, telephone, radio and television -- all these are different aspects of one complex system which represents the sector of "communications." Its services are used literally by the entire population, by all sectors of the national economy, and by the administrative organs in any, even the most remote, point in our vast Homeland. And the higher the economic potential of our country, the broader and more varied the cultural and spiritual demands of the Soviet people, the more acute the need for a widely branching and reliably operating system of communications.

The workers in the sector have honorably discharged their tasks for the three years of the five-year plan. They have presented the population and the national economy with services in the sum of 8.5 million rubles over the plan and have achieved an additional profit in the sum of 6.6 million rubles.

During this time, such facilities have been introduced into operation as the post office in Pavlodar, telegraph stations in Dzhezkazgan, Kustanay and Chimkent, a large automatic channel commutation unit in Alma-Ata, 175,900 new ATS [automated telephone stations], 5 large radio and television stations, 32 buildings at rayon communications centers, and a radio broadcasting complex in Arkalyk. The intra-production telephone and dispatch communications in agriculture has developed intensively, and the distance of inter-city telephone channels as well as the capacity of commutation centers have increased within the all-state system of data transmission.

All the oblast production-technical communications administrations have made a significant contribution to the successful fulfillment of the plan assignments and socialist responsibilities for 1983. Among these were the winners in the All-Union and Republic Socialist Competition -- the collective of the Urals Oblast Communications Administration, which was awarded the perpetual Red Banner of the CPSU Central Committee, the USSR Council of Ministers, the VTsSPS [All-Union Central Soviet of Professional Unions] and the VLKSM [All-Union Lenin Communist Youth Union] Central Committee; the Republic Information Computer Center, which won the perpetual Red Banner of

the USSR Ministry of Communications and the Communications Workers Professional Union Central Committee. The collectives of the Alma-Ata and Tselinograd oblast administrations and the Pavlodar city telephone network were awarded the perpetual Red Banners of the Kazakh SSR Ministry of Communications and the republic committee of the communications workers professional union.

Examples in work and training of youth are set by Hero of Socialist Labor K. Vustin, brigade leader of the Alma-Ata GTS [city telephone station]; B. Zhiyengazin, brigade leader at the Kustanay post office; communications master L. Smirnov, brigade leader at the Chimkent post office; and by excellent workers in socialist competition T. Vostrikov, telegraph operator at the Chimkent TTS [telegraph-telephone station], M. Zhuravlevich, electrical mechanic at the Kustanay ETUS [operational-technical communications center], A. Silyayev, sorter at the Dzhezkazgan city center, and numerous others.

We consider our active participation in the implementation of the USSR Food Program to be a task of primary importance. The workers in all sectors of communication have taken as their guide to action the speech by CPSU Central Committee Politburo member and first secretary of the Kazakhstan Communist Party Central Committee, comrade D. A. Kunayev delivered at the ceremonial meeting devoted to the 30th anniversary of the development of virgin and unused lands, in which he said: "The duty of communications workers... is to provide all the farms with reliable and uninterrupted telegraph and mail communications, to strive toward the broadest possible television broadcasting to rural regions, to eliminate lack of coordination in planning, and to sharply improve the culture of service to the population."

With extensive everyday help and attention from the Kazakhstan Communist Party Central Committee and the republic Council of Ministers, as well as local party and soviet organs, work has been expanded on accelerating the rate of development of intra-oblast and intra-rayon telephone communications and improving service to the agro-industrial complex and the rural population. Full introduction of intra-production telephone communications has been practically achieved in the sovkhozes and kolkhozes of the republic based on modern apparatus of coordinated ATS. Work is being completed on hooking them up to rayon central telephone networks. For this purpose we are constructing a widely branched network of connecting cable lines and expanding the carrying capacity of existing overheat lines by means of installing the latest consolidation systems. Our immediate task for the current five-year plan is to see that each farm has from 5 to 12 telephone communications channels with the rayon center, and that each rayon center has tens of channels of communication with its oblast center.

At present we are working on the organization of a dispatch network for management of agricultural production. It will join the oblast and rayon centers with every sovkhoz and kolkhoz, down to their sections and farms. Already at the present time around 1,300 farms have been hooked up to this system. This has great significance for the successful implementation of the Food Program.

Telegraph communications are also being improved. Thanks to the introduction

of new channel forming apparatus and automatic commutation systems, it has become direct — from the telegram sending center to the addressee, by-passing all the transit centers. This significantly speeds up the sending of telegrams. At present, telegraph networks of 16 oblasts in the republic have been hooked up to this system. Before the end of the five-year plan this will also be done in the remaining oblasts.

Telegraph channels are being ever more widely used for transmitting various types of documental information and newspaper photo matrices for their subsequent on-site duplication. This is the means used for printing numerous central newspapers transmitted from Moscow to Alma-Ata, Karaganda, Tselinograd and Chimkent.

Today we have 160 modern inter-city intra-rayon telephone stations in 16 oblast cities, including one of the largest in the country in Alma-Ata.

Major tasks lie ahead in the sphere of development of urban telephone networks. Only last year an ATS with overall capacity of 46,800 numbers was introduced into operation. A total of 53,000 new telephone subscribers were added, including 41,500 apartments, 10,100 of them in Alma-Ata. In 1983, over 13,000 telephones were installed for invalids and war veterans, i.e., 1.5 times more than in the preceding year. We have made the decision to supply full telephone service in the current five-year plan to the apartments of all war invalids and to no less than 75 percent of all war veterans.

For the present, an unsatisfactory situation has arisen in Alma-Ata due to the failure of construction ministries to fulfill the plan for introduction of individual ATS. Here in recent years the growth in ATS has not exceeded 30,000-35,000 telephone numbers, which, of course, is insufficient for a city with a population numbering in the millions. Even now concern is being expressed regarding the accelerated construction of ATS buildings and the introduction of capacities in the current five-year plan.

Every year, 5,000 postal communications enterprises deliver over 1.5 billion letters, 27 million telegrams, 13 million packages, 2.3 million newspapers and journals, and numerous other types of correspondence to the population. The consolidation of delivery sectors has been introduced everywhere for the purpose of speeding up mail handling and delivery. All the city sectors have been changed over to motorized mail delivery, and the transition of rayon centers is being completed. Group and subscriber boxes are being used everywhere, which significantly facilitates the hard labor of the mail carriers. The introduction of "Onega" electronic complexes has been completed for mechanization of postal-register operations. Extensive work remains to be done in replacing the heavy manual letter sorting operation with machine working, for which the application of special letter sorting machines has already been begun.

Over 100 radio broadcasting stations daily transmit two central and two republic radio broadcast programs for 20-22 hours. Over 4 million radio receivers then bring these programs to practically every family.

There are currently 600 television stations operating in the republic, which has made it possible to provide transmission of the first program to all 19 oblasts, a republic program -- to 18, and a second union program -- to 14. The coverage by one television broadcasting program has reached 85.1 percent, and by two programs -- 71.6 percent of the republic's population. Last year alone three large RTS [television relay stations] were introduced in Barshatas, Inderborsk, and Stepnogorsk. Receiving stations for satellite television "Ekran" and "Moskva" were set up in 118 population centers. The construction of a television facility which is unique in its technical resolution is being completed in Alma-Ata on Mt. Kok-Tyube. The new television tower which is 372 meters high will make it possible to provide transmission of six television programs and four radio broadcasting programs on ultra-short waves.

In implementing the decisions of the December (1983), February and April (1984) Plenums of the CPSU Central Committee, the workers in the sector are planning in the present year to complete and place into operation automatic telephone stations with overall capacity of 72,000 numbers in the cities and rayon centers. The extent of telephone channels on inter-city communications lines is being increased by 1.04 times. Up to 75 percent of the rayon centers will be changed over to the automated inter-city telephone network. The plan assignments which have been set and the socialist responsibilities which have been accepted by the republic's communications workers for 1984 and for the five-year plan as a whole will be overfulfilled.

12322
CSO: 5500/1039

WESTERN RADIO-TV 'PSYCHOLOGICAL WAR' AGAINST USSR ASSAILED

Kiev RABOCHAYA GAZETA in Russian 21 Jun 84 p 3

[Article by A. Kasyuk, candidate of philological sciences: "Fourth Front"]

[Text] The life of the peoples today is linked with information in many ways. On the average, people spend almost one-fourth of their waking time under the influence of the mass communications media. To a considerable degree, our concept of what the world is and what it will finally be, our life style and our world view are determined by this flow of information.

Radio and television are the main carriers and transmitters of particularly pressing public information. These mass communications media play an extremely important role in the ever more intense ideological struggle. Their vigorous technical development led to the fact that the flow of information is expanding from year to year and to the fact that more and more segments of the population are being drawn into the ideological realm of the opposition of two world systems. The mass communications media made it possible for politicians and statesmen to turn directly to the broad masses and to establish direct contact with them. For what purpose is another matter.

In the opinion of Western experts on psycholoigcal warfare, it is possible with the help of radio and television to have the most effective propaganda among the citizens of socialist countries of the capitalist way of life and to poison their minds with anti-communism. To designate the "war in the atmosphere," bourgeois strategists introduced the special term "fourth front," which mainly refers to radio and television.

The striving of our class enemies to avoid a comparison of the fundamental values of socialism and capitalism and to replace the struggle of ideas with psychological warfare that is incompatible with normal relations between countries is the result of the extreme intellectual poverty of imperialism, the crisis in its ideology and morality and the fact that it is unable to present ideas capable of inspiring nations.

In compairson with the imperialist press, which is hindered in its spread by the borders of the socialist states, radio and television have practically limitless opportunities to influence the population over wide areas of the continent.

In the opinion of imperialist strategists, radio and television ought to become the most important channel for the dissemination of counterrevolutionary ideas hostile to socialism"... through the use of psychologically subtle means in communist states.... The people in communist states will thus become conscious and unconscious carriers of Western ideas."

At the time of the conclusion of agreements between the socialist states and the FRG, and also in connection with the All-European Conference on Security in Helsinki, the demand "freedom of the exchange of information" became the main element in the slogan put forth by the NATO member countries on "freedom of the exchange of people, ideas and information." In one form or another, all communiques of NATO sessions since 1970 contain similar appeals.

The adherents of the slogan "freedom of the exchange of people, ideas and information" do not hide the fact that their efforts are directed against socialist states, which supposedly need and at the same time fear information from the West, whereas in capitalist countries any information can be spread "freely and uncontrolled."

What is the true situation? In reality, the mass communications media are always class media. About 42,000 radio and 25,000 television transmitters located on the territory of the nonsocialist countries are the property of imperialists or are paid for, directed and guided by them. On the territory of the FRG, there are a total of about 5,000 military and civilian radio and television stations, of which 326 radio and television stations are located inside a 50-km strip along the national border with socialist countries.

With the help of thousands of kilowatts of transmitted radio waves, thousands of editors, announcers, musicians, technicians, etc., the ideologists of warfare in the atmosphere are distorting the policies of socialism and masking the aggressiveness of imperialism. Anti-communism and anti-Sovietism are the common elements in this entire system of mutiple forms and methods organized on a global scale. It is expressed in more or less open or concealed but always aggressive forms of psychological warfare against all enemies of imperialism and especially against the community of socialist states and the policies of the communist and worker parties.

At the present time, the imperialists of the FRG are trying to adapt to the new conditions of the ideological struggle. In this connection, a special role is assinged to disinformation as one of the methods of psychological warfare. In an article by the West German ideologist Osterode "Disinformation As a Weapon," which appeared in the journal ALTE KAMERADEN, it states: "The present art of effective disinformation involves... the selection of the necessary information, the proper timing, the appropriate communications medium and also a subject to be acted upon with the purpose of quietly influencing public opinion and, if possible, of directing it in the necessary channel without involving other media."

Music serves as the background for disinformation, lies and other forms of diversion carried out with the aid of radio and television. Vice Admiral Ruge, former insepctor of the West German Naval Forces, described the task of music

as a means of psychological warfare in the following manner: "Tear down everything that is good in the country of your enemy.... Influence the morale of the soldiers with the help of the appropriate music and songs."

In the arsenal of the means of ideological diversion, the work and music interact closely and complement one another. This is how one French expert in the area of psychological warfare expressed himself: "Music is the universal all-encompassing means.... It is easy to utilize this diversionary maneuver with the help of a few radio stations broadcasting to the communist world.... Whenever there is room in the communist consciousness for rock 'n' roll or calypso, this leads to the expulsion of other things and these things are always included under the concept of ideology."

Indeed, music, harmony, dissonance and rhythm evoke a certain mood. And it is possible to have a further influence on that mood with the aid of specially selected musical productions, so as to attract to the receiver the listener who is not entirely critical in his thinking and get him to listen to the broadcast. For this purpose, the entertainment industry in the FRG, along with hundreds of entertaining broadcasts, annually finances the creation of about 5,000 titles of dance productions and it purchases about 2,000 titles in other capitalist countries.

Imperialists in the FRG consider radio to be "the most powerful means of mass communication." In addition, P. Linebarger, an American expert on psyschological warfare, points out that "on a per-capita basis, there is no doubt that radio is the least expensive medium."

Particularly active in subversive propaganda against Warsaw Pact countries are the radio and television stations of the FRG and West Berlin as well as the U.S. radio stations located on FRG territory.

The following radio stations in the FRG and West Berlin are in the service of the authorities of "psychological warfare":

"Deutche Welle," which specializes in ideological diversion against the USSR and other socialist countries;

"Deutschlandfunk," the broadcasts of which are directly mainly against the GDR;

the radio stations of the Lands, such as "Radio Hessen" (Kassel), "Bavarian Radio" (Munich), "Southwest Radio" (Cologne), "North German Radio" (Hamburg);

"Free Berlin" and others.

The radio station "Deutsche Welle" occupies one of the leading positions in the strategy of imperialism's "war in the atmosphere." Beginning 2 November 1974, a new order of broadcasts was introduced at the station and broadcasting was expanded to as many as 82 hours daily in 33 languages.

With the aid of one "Russian Program" alone, the radio station "Deutsche Welle" is carrying on an unbridled anti-Soviet campaign of instigation, as though nothing had changed since the time of the "cold war."

It is not surprising that the broadcasts of the radio station "Deutsche Welle" are characterized by a particularly anti-Soviet orientation. For unitl recently the 1,600 employees of the radio station were led by a certain Walter Steigner, who had gone through Goebbel's propaganda school. During the years of World War II, he served in the 501st Fascist Propaganda Comapny, which was part of the 18th Army that operated near Leningrad.

The radio station "Deutschlandfunk" is essentially performing all its work in ideological diversion against the GDR and its army. It is responsible for more than 40 percent of all broadcasts of West German and West Berlin radio stations that are directed against the GDR.

A special position among the broadcasts against the GDR, and one that is growing all of the time is occupied by the broadcasts of a military or political nature. Almost every fourth broadcast of this radio station is directed against the military policies of the Socialist Unity Party of Germany and the National People's Army of the GDR. Measures to ensure the security of the GDR and other Warsaw Pact countries are distorted and they oppose a lessening of international tension. Thus, in one of the broadcasts, it was said: "So, only the West is supposed to disarm. They are arming themselves in the East." Although the entire world knows thereby that it is precisely the USSR and the other countries of the socialist community that are presenting all of the new constructive proposals for arms reduction.

Besides the 24-hour program in German, the radio station "Deutschlandfunk" broadcasts the so-called "Europrogram" in 13 foreign languages, which is created by a special Eastern editorship and has as its goal ideological diversion against socialist countries.

The radio station "Free Berlin" carried out, on the one hand, an ideological cultivation of the population of West Berlin with the purpose of "strengthening the ties between West Berlin and the FRG," and, on the other hand, it is an instrument of ideological diversion against the citizens of the GDR. In an interview given to a correspondent of the radio station "Deutsche Welle," the director of "Radio Free Berlin" declared: "We must think about listeners in the GDR. 'Radio Free Berlin' is also intended for the population of the GDR." In what sense the gentlemen from the so-called "Free Berlin" are "thinking" about the citizens of the GDR was revealed in one of the broadcasts: "It is not too early to think about how that... system... extending from Travemuende to the Bavarian Forest should one day be overcome."

A special role in the anticommunist diversion is assigned to the U.S. radio stations "Free Europe," "Liberty" and RIAS [Radio in the American Sector], established on the territory of the FRG and West Berlin. They are an organic outgrowth of the "cold war."

Radio "Free Europe" broadcasts with the aid of 26 short- and medium wave transmitters to the socialist countries of Eastern Europe. Radio "Liberty" concentrates its efforts, as DIE WELT acknowledged, on "utilizing all means of psychological warfare in all areas to overthrow the political regime in the USSR." Both radio stations (partially combined administratively since 1975) are financed by the U.S. Government. Their budget for the current fiscal year amounted to $114 million.

These centers of subversion were created by the CIA at the height of the "cold war" in the late 1940's and early 1950's, when the United States and its allies adopted the infamous doctrine of a "rollback of communism" and feverishly began to put together a system of military blocs directed against the socialist countries. Their plans also included the creation of the notorious "fifth columns" of traitors within the socialist states, who, at the opportune moment and on a signal from the West, could start an uprising and hit these states from the rear.

The activity of the radio centers is by no means limited to radio broadcasts. As the Austrian newspaper VOLKSSTIMME reported, among the 9 sectors and 33 departments in the organization of the radio station "Liberty," there are, for example, the following: the "special projects" department that is involved in sending subversive literature into the USSR; other departments try to enlist foreign tourists on their way to the USSR: several departments are involved in shadowing Soviet citizens who happen to be abroad; and there are departments that send their own agents into the USSR to carry out espionage and diversion.

In the statement of the USSR Ministry of Foreign Affairs to the U.S. Embassy in Moscow, which was made concerning the hostile activities of the American radio stations "Liberty" and "Free Europe," it was noted that these subversive centers "are spreading slanderous fabrications about the domestic and external policies of the USSR, are trying to sow national discord and enmity, and are openly involved in instigation."

The statement goes on to say that the activities of the radio stations "Liberty" and "Free Europe," generously financed and supported by the U.S. Government, are essentially a long-term and never-ending provocation against the peoples of the USSR and other socialist countries.

The U.S. radio station RIAS in West Berlin has made it its goal to influence the population of the GDR with the help of specially developed ideological diversionary programs. The radio station is officially under the U.S. State Department. RIAS sends two programs using 10 ultrashort-, medium- and long-wave transmitters. Specially beamed political programs comprise 40 to 50 percent. The radio station RIAS played a particularly reactionary role in the counterrevolutionary putsch in the GDR on 17 June 1953. At the present time, a constantly larger part of the radio station's budget is covered through FRG funds.

West German television plays a significant role in the ideological diversion against socialist countries, in particular against the GDR. Its goal is to defile the socialist system, the unity of the communist parties and peoples and the peaceful policies of the socialist countries.

With the goal of increasing ideological diversion through the aid of television, in the FRG they are studying the possibility of using as television transmitters aircraft flying at an altitude of 20 km with television equipment. These experiments are a step toward the use of artificial satellites for direct transmission of television programs to the Warsaw Pact countries for purposes of psychological warfare. It is not difficult to understand the motives behind

such research--the imperialists would like to unceremoniously intrude on other television screens with their rotten ideological goods, without asking the owners, just as they are now doing in the area of radio.

Imperialists as a whole and West German imperialism in particular have increased their efforts to use mass communications media (especially radio and television) to carry out specific and coordinated ideological diversion of an even more subtle nature and thus to intensify intervention in the internal affairs of socialist states. The density of the network of FRG radio and television stations along the border with socialist countries is twice what it is on the rest of its territory. The power of these stations is increasing constantly.

In adapting to the new situation, the organizers of psychological warfare are gradually starting to shift from methods of "frontal persuasion" to the technique of "unobtrusive persuasion." In carrying out psychological warfare against the USSR and other socialist countries, imperialist ideologists are trying to shield themselves with the slogan "freedom of information." "free flow of information," etc. How and where the information freely flows was shown at an international seminar in Finland with the example of television: "In the socialist countries, original Western television broadcasts amount to 10 percent of the entire program, whereas at the same time in the West, broadcasts from socialist countries account for only 2 percent."

The facts indicate that the imperialists have no intention of letting go of the poisoned weapon. They are continuing and even increasing the activity of their radio and television centers, trying to revive the climate of the "cold war" period.

9746
CSO: 1807/262

SWEDISH FIRM HOPES TO SEND PAY TV TO NORDIC, BENELUX COUNTRIES

Oslo AFTENPOSTEN in Norwegian 25 Jul 84 p 5

[Article by Ingar Sletten Kolloen: "Esselte has Plans: Pay TV From Sweden?"]

> [Text] The multinational Swedish firm, Esselte AB, has plans for starting pay TV broadcasts in the Nordic countries as well as in Belgium, the Netherlands, and Luxembourg. "We are aiming at broadcasting films and entertainment 8 hours a day," Jorgen Nillson, the director of development for Esselte, told AFTENPOSTEN.

Esselte is active in 26 countries and plays a significant role in the video market in Norway, Sweden, Denmark, Finland and the Benelux countries. "It is logical therefore for us to take a further step which will enable us to offer TV entertainment, sent via satellite, to viewers in these countries," says Nillson, who confirms that the firm has purchased broadcast time over a Belgian communications satellite. AFTENPOSTEN has grounds to believe that this will cost Esselte approximately 10 million Norwegian kroner annually.

Financing for the venture is conceived of as being through pay TV. The director of Esselte estimates a monthly subscription fee of about 100 kroner. He predicts a strong interest in the Norwegian market. But the Swedish multimedia firm has not sought permission from the Culture and Science Department for broadcasting programs in Norway.

"We are following developments in Norway carefully, and not the least, in the legal area," says Jorgen Nilsson. "From a purely technical standpoint, there is nothing to prevent our starting as early as the beginning of the new year if other conditions are suitable."

The director of development for Esselte is very aware that Janco Vision--through one of its owners, Orkla Industries--has acquired pay TV rights to more than a lion's share of U.S. films and TV programs through a cooperation agreement with United International Pictures.

"Nonetheless, we will not have any problems, by and large, in obtaining the films which we want," Nilsson believes.

Problems?

It may, however, be a bit more difficult for Esselte to gain access to the cable network here in Norway. The Janco network--which today has about 140-150,000 subscribers--already is well utilized. In case of a possible expenasion, those who want to operate local TV broadcasts, combined with pay TV, likely will be granted priority.

12578
CSO: 5500/2744

BRIEFS

'MINITEL' TERMINAL SALES FIGURES--At the close of the month of February, 1984, the number of Minitel terminals in service, distributed by Telecommunications was as follows: 108,252 terminals were distributed free of charge under the electronic directory program, of these 8,670 were in the Amiens region, 4,594 in the Marseille region, 78,091 in Brittany and 16,897 in Ile-de-France. Moreover, 32,555 Minitels were rented as part of the ideotex professional [data bank] service, of which 12,520 were in Ile-de-France. [Text] [Paris ZERO UN INFORMATIQUE HEBDO in French 30 Apr 84 p 29] 12687

CSO: 5500/2713

TELECOMMUNICATIONS AGENCY TO END MONOPOLY IN SOME SERVICES

Committee To Make Recommendations

Copenhagen BERLINGSKE TIDENDE in Danish 17 Jul 84 p 7

[Text] Large parts of telecommunications services in Denmark which have come under the state in the past will in the future be assigned to the telephone companies granted exclusive concessions by the state.

With this in mind the government has appointed a committee that is to report to the government within 3 months on the best way to delegate telecommunications tasks and transfer personnel, according to the prime minister's office. The committee, which will be chaired by undersecretary Nils Bernstein of the administrative section of the prime minister's office, has been asked to change the division of work between the state and the limited stock companies, which will involve among other things the transfer of personnel from the state to these companies.

The background for the appointment of the committee is the government's modernization program and the decision to reduce the state's direct involvement in the area of telecommunications. The plan also means that all matters concerning telecommunications in the Ministry of Public Works will be handled by the Directorate of Post and Telegraph Services.

Among other things the committee will consider whether the present state telephone areas, Mon and Sonderjylland, should be turned over to the telephone companies to which they belong geographically. By the end of October the committee is to present a basic outline indicating some of the consequences of the changes and how quickly they can be implemented.

Former Agency Head Comments

Copenhagen BERLINGSKE TIDENDE in Danish 1 Aug 84 p 12

[Op Ed Article by Post & Telegraph commissioner Poul Hansen]

> [Text] Today's article is a comment on the government's decision to transfer work--and thus some of the telephone monopoly--from P & T [Post & Telegraph] to the telephone companies. Poul Hansen, former director general of P & T and coauthor of the report on "Organization of Telecommunications Activities in the Future," from December 1979, points out that it is not enough to transfer the monopoly. It should be restricted.

On 17 July 1984 BERLINGSKE TIDENDE reported the good news that "the state is relinquishing some of its telecommunications services." By the end of October 1984 an official committee is to present a basic outline for changes in the distribution of work between the state (i.e. P & T) and the telephone companies (KTAS [Copenhagen Telephone Company], Jutland Telephone and the Funen Municipal Telephone Company).

Customer service for subscribers in the areas formerly served by P & T will be turned over to the appropriate telephone company. In the future the telephone company will handle marketing and the sale of services and terminal equipment. Today P & T is in charge of teleprinter services, data transmission, etc. over the entire country as well as all long-distance communications, including telephone calls.

The new committee will also consider whether the state telephone areas in Sonderjylland and Mon, where P & T now acts as the local telephone company, should be taken over by one of the licensed telephone companies. The committee will also make proposals for a change in the division of work between the Communications Ministry's department and the P & T Directorate (department). Today both groups--along with a third, the State Telecommunications Council--are involved in the overall management of the nation's telecommunications services. One of the conditions for the committee is that all matters pertaining to telecommunications within the Communications Ministry are to be handled by one administrative unit, namely the P & T Directorate.

The committee's mandate is noteworthy because in stating the conditions for its work decisions of principle have already been made on changing the division of work between the telephone companies and P & T and between the Communications Ministry's department and the Directorate of P & T. This will mean that a sizable number of employees will be transferred from P & T to the telephone companies. It is hard to understand the economic consequences of the changes for the state in advance, but one of the committee's

assignments is to investigate this matter. Traditionally the telecommunications side of P & T has provided a sizable surplus for the state treasury.

It cannot be predicted in advance whether the whole thing will result in economic benefits for customers, but presumably there are anticipations of rationalization benefits. In contrast to the present system, customers will have only one supplier of telecommunications services, the telephone company, instead of both P & T and the telephone company. Undoubtedly many people will be pleased with that. At any rate the customers who only use one telephone company and do not conduct business within two or three concession areas.

But one should not forget that the telephone companies have a pure monopoly. Under the law the state has a monopoly on telecommunications. The monopoly is divided into concessions. It is true that we have three telephone companies that compete with each other on such things as being first with new services like number location, but from the telephone subscriber's point of view there is no free choice of suppliers or any price competition at all. That matter, however, will not be changed.

It may be in order to recall the work of an earlier committee, the Telecommunications Study of 1978.

That work resulted in a report on "Organization of Telecommunications Activities in the Future," from December 1979 (Public Report No 884).

The 1979 report pointed to a number of characteristics and problems in the telecommunications sector in Denmark that are still valid:

There is no single authority in Denmark that covers all telecommunications activities. There have been several considerations (in the period since 1917) of uniting the telephone companies and the state's own telecommunications activities in one unit, but this has not been done.

But in principle there is equal access for all on a nationwide basis to communicate via the public telecommunications network and services provided are available everywhere on equal terms. Telecommunications is a public supply service and the licensed companies and P & T are required to supply this service.

Even though there are four telecommunications agencies the existing telecommunications network is jointly used for all telecommunications services. It is only at the final point that the joint transmission routes are split up into telephone lines (the telephone companies) and telex (P & T). The full development of the new technology means that all telecommunications services can make use of the same transmission system and utilize the same exchanges. The way the administration system is set up does not insure the necessary coherence in the state administration of the telecommunications area as a whole. There is a need for stronger management coordination of the telecommunications sector in Denmark, the 1979 report said.

One-third of the telephone revenues come from very large users (2 percent of the total number of subscribers). By the year 2000 the very large users are expected to make up 1 percent of the total number of subscribers and this 1 percent is expected to contribute around half of total revenues.

Technical developments are different for the telecommunications network ("a single telecommunications network") and for the terminals (telephones, data terminals, teleprinter terminals, etc.). In the terminal sector, the telecommunications administrations have a monopoly in principle on all services, but this monopoly should be reduced, according to the 1978 Telecommunications Study. It is in the interest of consumers to have as free a market for terminals as is technically possible, so they can make use of the latest technical inventions, it was said. The future role of the telephone companies and P & T in the terminal market should therefore be limited to supplying certain categories of equipment and this should be done either wholly or partially in free competition with other suppliers of terminal equipment.

Finally the Telecommunications Study of 1978 pointed out the need for a unification and modernization of telecommunications legislation (the major legislation dates from 1897).

Based on its analysis the Telecommunications Study of 1978 presented a "wish for a technically and economically optimal development of the telecommunications sector that will place increased demands on an effective coordination and management of the sector." Various possibilities were presented for a truly unified organization of telecommunications (a unified telecommunications service). A number of less comprehensive organizational changes were also outlined.

The main proposal in the report was to retain the four telecommunications agencies as independent units, to give them all the same business form (stockholder companies), meaning that P & T would be organized as a straight mail service and a new telephone company, and to establish an overall administrative organ for the four units in the form of a state-owned parent stock company. "The establishment of a superstructure in the form of a parent company with the requisite administration over the four telecommunications agencies could guarantee the necessary overall coordination on the business level," it was said. Less comprehensive changes could not produce the coordination that was considered necessary, people said.

The Telecommunications Study of 1978 also said that there were no compelling arguments for continuing to operate the postal sector and the telecommunications sector as one enterprise.

In the subsequent political process in 1980 and 1981, support was gained only for the weakest part of the suggested solutions--a reorganization of the State Telephone Inspectorate. After a debate in Folketing in February 1981 the four telecommunications administrations were kept unchanged. Two telephone companies owned by stockholders, one cooperative municipal telephone company and P & T as an undivided state agency. The Telephone

Inspectorate, which was the Communications Ministry's supervisory organ over the three telephone companies, was replaced by the State Telecommunications Council which was given some supervisory and coordinating tasks over both the telephone companies and the P & T telecommunications sector.

The politicians may have chosen the weakest alternative because it was not generally known that there were cooperation and coordination problems on the part of the four telecommunications administrations.

It was well-known to employees of the telephone companies and P & T--and especially to the managements of these bodies--that there were territorial disputes. The telephone company licenses covered only telephone (call) service, but since the telecommunications network was already being used jointly it was natural for the telephone companies to want to market computer services as well as other things. P & T was formally responsible for these services. This problem was also well-known to big customers.

After 1981 it became public knowledge that there were growing problems involved in dividing work between the three telephone companies and P & T. Problems that the new Telecommunications Council has been unable to overcome.

Therefore it is both understandable and quite justified that steps are now being taken to radically change the work division between the telephone companies and P & T.

If we compare the decisions of principle that have now been made with the results of the Telecommunications Study of 1978, however, we conclude that only some of the problems have been solved.

No stand has yet been taken on the question of the scope of the monopoly.

The monopoly is now being shifted, but it is not being restricted. It is in the interest of consumers to have the monopoly weakened and to get a terminal market (the market for subscriber equipment that can be linked to the telecommunications network) that is as free as is technically feasible. This involves free consumer choice of suppliers and equipment models for telephones, computers, so-called computer modems, word processing equipment, etc.

It is also important that the Telecommunications Study of 1978 demonstrated a rising need for effective coordination and management of the telecommunications sector in order to guarantee optimum development. The measures now being proposed will not automatically guarantee this on a nationwide basis. The regional telephone companies are being strengthened at the expense of the only one of the four telecommunications enterprises being operated--and coordinated--on a national level, P & T. Big customers in particular who have a nationwide network of affiliates (and they provide a good deal of the revenues, as we pointed out) may run into the question of who their "telecommunications supplier" really is. Until now they have been able to

get in touch with just one, P & T, when data and text transmission was involved. In the future they will apparently have to coordinate contacts and negotiations with the three telephone companies.

The goal of unifying telecommunications activities in a single enterprise (as has happened all over the world with the exception of the United States, Canada, Finland and Denmark) seems to have been practically crowded out of the picture although it can be shown at the same time that the technical integration of the various telecommunications services is leading us toward one and only one telecommunications network as far as technology and service are concerned, and toward a rising need for coordination. How can a cohesive nationwide planning and administration of the country's telecommunications activities be set up in an organizational model containing a curtailed P & T and three independent reinforced telephone companies? That is one of the things the committee should try to find a solution for.

The Folketing decision of February 1981 to make a modest adjustment in the form of establishing the State Telecommunications Counil left a number of important questions unclarified. These included the following in addition to the problems of restricting the monopoly and strengthening coordination:

Should the postal service and P & T's telecommunications service continue to be run by one organization?

Should P & T's telecommunications side be transferred to an organizational form similar to that of the telephone companies (a stock company form)? P & T's status as a state enterprise involves substantial limitations on freedom of action compared to the telephone companies, especially when it comes to recruiting highly-trained personnel.

Should telecommunications legislation be modernized? (The primary legislation dates from 1897.) Other problems arose later on.

After the unity idea was abandoned in 1981, should the telephone companies still respect the principle on a national level of being a public service with supply requirements and equal access for all on uniform terms? (The hybrid network ideas do not seem to respect this.)

With the new committee the government has taken a deliberate step toward solving some acute and annoying problems of cooperation.

But the initiative should not stand alone. There is a need for other modernization steps, especially a limitation of the telecommunications monopoly and the provision of competition--for the benefit of consumers.

6578
CSO: 5500/2748

SPOT MILITARY SATELLITE PROGRAM CHALLENGES U.S., USSR

Paris LIBERATION in French 31 May 84 p 23

[Article by Jean-Paul Dufour: "With an Optical Observation Satellite, Europe Is Taking Its First Steps Into Military Space"]

> [Text] The French project for a military optical-reconnaissance satellite could mark Europe's entry into military space, where the Soviets and the U.S. are still alone for the time being.

Does Big Brother exist? He is Soviet or American and is watching you from his orbit at an altitude of 800 km or so. In 10 years from now, he could also be French-German.

Indeed, at the Rambouillet summit that ended Tuesday, Francois Mitterrand and Helmut Kohl agreed to start a study for the joint development of military observation satellites. A working group including representatives of the French General Directorate of Armament (DGA) and the German Federal Army staff will study the question. Its mission: to determine how to develop, build and possibly operate jointly these little toys which, from up there, can detect the slightest troop movement anywhere in the world and are even said (although their actual capabilities are kept secret) to be able to read the numbers of car license plates.

The French project is nothing new. It is called SAMRO (i.e. Optical Military Reconnaissance Satellite) and is derived from the French civilian observation satellite SPOT [Trial Earth Observation Satellite] that will be launched by Ariane next year. But SAMRO has been on the backburner for two years. The reason is that it is too expensive for the time being. The crisis came and the military, although traditionally not much affected by any budget cuts, had to resign themselves and wait. That long patience could now be rewarded with the launching of this French-German project.

Yet, they are cautious not to rejoice too soon and maintain a prudent reserve. "This is only a first approach. We cannot prejudge of the results. What is done, assuming anything is done, will take into account the common interest of both parties," people at the DGA will say. You can hardly be more evasive. Will SAMRO be used as a basis for future studies? "Not necessarily." But, since the Germans do not seem to have any similar project in their files, we can assume that it will.

On the other hand, the management of Aerospatiale does not conceal that it is pleased. Actually, the French company is responsible for the development and production of most of the SPOT and SAMRO satellites and has worked in close collaboration with its German counterpart, MBB [Messerschmitt-Boelkow-Blohm]-Erno, on many projects, including the TDF-1 and TV-Sat television satellites.

According to Pierre Usunier, head of the Ballistic and Space Systems Division of Aerospatiale, SAMRO and SPOT will beyond any doubt provide the basis for the French-German joint project. With these projects, the French have acquired a considerable technological lead and, he pointed out, "the development of SAMRO was not completely discontinued. In particular, at its Cannes facilities, Aerospatiale continued to work on the optical system of the satellite." Certain political problems will have to be solved: "The performance and capabilities of SAMRO are covered by military secret." However, since observation is not considered to be an act of hostility, the FRG's special defense status will not be an obstacle.

It is still too early to say what form the project will take. People at the DGA pointed out that it will not necessarily mean that the national SAMRO project will be abandoned. "Each of the two partners must retain its freedom." The system could be a full-fledged joint project, or it could be developed and realized by the two countries but operated separately, like the (French) TDF-1 and (German) TV-Sat television satellites. The high cost of the operation will weigh heavily in making the final decision. A SPOT satellite, for instance, will travel over each point of the globe every 26th day. That period is too long for any military application. Therefore, several systems will have to be placed on orbit (probably more than five, according to experts). The "ground segment" (image receiving and processing stations), which accounts for a large part of the cost, should also be duplicated in the case of separate operation by the two countries.

This project, which is the direct consequence of the proposal made by Francois Mitterrand in the Hague, concerning European military space cooperation, is undoubtedly only "a first stage and will probably be expanded in the future to include all of Europe," according to Pierre Usunier.

That prospect fills him with joy: like all leaders in the European space industry, he does believe that the lack of large military space programs places Europe in a position of inferiority with respect to the United States. The space budget of the U.S. Department of Defense is larger than that of NASA and is a dynamo for research and especially for the space industry. Satellite manufacturers like Hughes and Ford Aerospace are working for the army to the extent of 70 percent. With orders from the European military, companies like Aerospatiale or MATRA [Mechanics, Aviation and Traction Company] in France, MBB-Erno in Germany or British Aerospace in Great-Britain could hope to be in a position to compete with them seriously one day.

9294
CSO: 5500/2749

ADDITIONAL DETAILS ON NATIONWIDE COMPUTER DATA NETWORK

Reykjavik STORD in Icelandic No 1, 1984 p 89

[Article by Helgi O. Viggosson: "Nationwide Computer Data Network"]

[Text] It can be roughly estimated that this year well over half of the work force in the Western countries will be involved in the so-called "skilled professional jobs" and other jobs connected with managing, collecting, processing and distributing data. Forecasts indicate that during the latter part of the next decade this ratio will have reached 90 percent in the same countries. According to this, most jobs will require specialized education or experience. Production industries will be mostly automatic but heavy industry and other more manpower demanding production industries will be transferred to the developing countries.

Whether this is a vision or wishful thinking will not be discussed in this article. One thing is certain: with regard to technology there is no obstacle in sight. It is more difficult to evaluate the role of the human factor and it is likely that it will hold this development back, for better or worse.

Many potential consumers of this new technology have a tendency to distrust it despite the advantages it obviously brings forth. The reason is mainly that these technological innovations have been very little discussed either by the public information media or by educational institutions. The reaction of many people is therefore understandable: people often fear what they do not understand.

We Icelanders have always lagged somewhat behind our neighboring countries in utilizing new technology, especially computer technology, and therefore we have not been able to enjoy its advantages. Recently, however, many interesting things have been taking place in computer affairs here. Of the greatest importance is perhaps the decision by the Post and Telegraph Administration to establish an extensive computer network in the country.

This computer data network and what we can expect from it in the near future will be discussed briefly in this article but without any technical descriptions.

Packet-Switching Network

The first mention of a general computer network here to use in cooperation with the other Nordic countries was in 1979. Nothing materialized from these plans due to a lack of interest by many of those who would have used such a network the most. At the same time, the four Nordic countries jointly established a so-called circuit-switched network and based that on an X.21 standard specification by CCITT which is an institution that deals with telecommunications within the UN.

During the recent months, however, great interest for a general computer data network has appeared here, especially among the four largest computer users: SKYRR [State and Reykjavik Municipality Computer Center], the Banking Computer Center, SIS [Federation of Iceland Cooperative Societies] and Icelandair, as it is obvious that with the adaptation of such a network, they will be able to increase the flow of information and improve the service to their customers without any considerable increase in cost.

According to the plans of the Post and Telegraph Administration, the planned computer network is to be in use during the first half of next year. It has been decided to install a so-called packet-switching network based on a CCITT X.25 standard specification. Such networks are now very common and there is every indication that they will be dominating in the market in the future. The central control for the network will be located in Reykjavik but the following towns will have terminals that will serve them and their vicinity: Isafjordur, Blonduos, Akureyri, Egilsstadir, Hvolsvollur and Stykkisholmur. Two or three circuits will be established from the central control in Reykjavik to Europe and perhaps to the United States. General packet-switching networks have been installed in most industrialized countries, for example, Telenet and Tymnet in the United States and IPSS and PSS in Britain.

X.25 Standard Specification

Up to the end of the last decade, most telegraph companies in the world offered their customers three choices for data telecommunications: oral transmission, telex and telegrams. Although the last two choices obviously guarantee security in information distribution, they are far too slow for computer telecommunications. A typical speed for telex transmission is 50 bits per second (bps) and 200 bps for telegrams. Data telecommunications via the telephone network have therefore been the most common and it has been possible to transmit at the speed of 300-2400 bps.

But the telephone network was not designed to transmit computer data. The main problems that occur are overloaded lines, errors in transmission and great cost as the user pays for a connected line whether it is in use or not. There has been another option, i.e. to rent a telephone line between two places especially for data transmission. But that is a very costly option and is only feasible for firms that have a great turnover. All the above-mentioned options are less advantageous than transmitting via packet-switching networks.

Aside from being designed especially for computer telecommunications, the X.25 packet-switching network is also designed with the idea in mind to be able to bridge the gap between different computer types and to be flexible in practice. For this purpose, the procedure that defines how it works is divided into three separate basic units (or layers) on top of which others can be added to serve special needs. As the name indicates, the packet-switching networks operate in such a manner that the data that is to be transmitted is divided into packets and usually there are 1024 or 2048 bits (128 or 256 bytes) in each packet. In addition to the data, the packet also stores data about the receiver, the sender, the number of the packet, an emergency digital code as well as various other control data.

The computer network software that operates in the network's central control and terminals, then guides the packets through the network. Theoretically the packets can travel different routes to their destinations but the traffic conditions can affect the transmission temporarily. If the plan is to transmit data to a city in West Germany, the packets would first go through Copenhagen but if there are delays in the traffic on that route, the next packet can be directed through London, just to give an example. Nonetheless, the packets would arrive in the right sequence to their destination. The same applies if an error is discovered in one packet; then the network sends it back to be corrected and it will then be sent to its destination in the right sequence. The data will always be delivered correctly and the user will never be aware of all the tricks the system performs in order to accomplish this.

Although packet-switching network systems can vary in details from one country to the next, their main features are the same. A subscriber to a computer network needs access to a computer system with hardware and software that can be connected to the network and must rent a line to the nearest terminal. If all conditions for an X.25 data distribution are available, all computers should be able to exchange information regardless of origin. In some instances the software has to be increased so that computers from different manufacturers can work together. For example, it is sometimes necessary to translate between an EBCDIC code which most IBM computers use and an ASCII code which is used in most other computers.

The difference in transmission speed between computers is immaterial. A fast computer system that is connected to a network through a 56,000 bps rented circuit can deliver data to another system that is connected to the same network with a 4,800 bps circuit; the network system equalizes the difference in transmission speed.

The fee for transmissions is usually independent of distances within a network. In many instances each cost unit equals half a packet or 512 bits. In addition, time units are used in calculating fees.

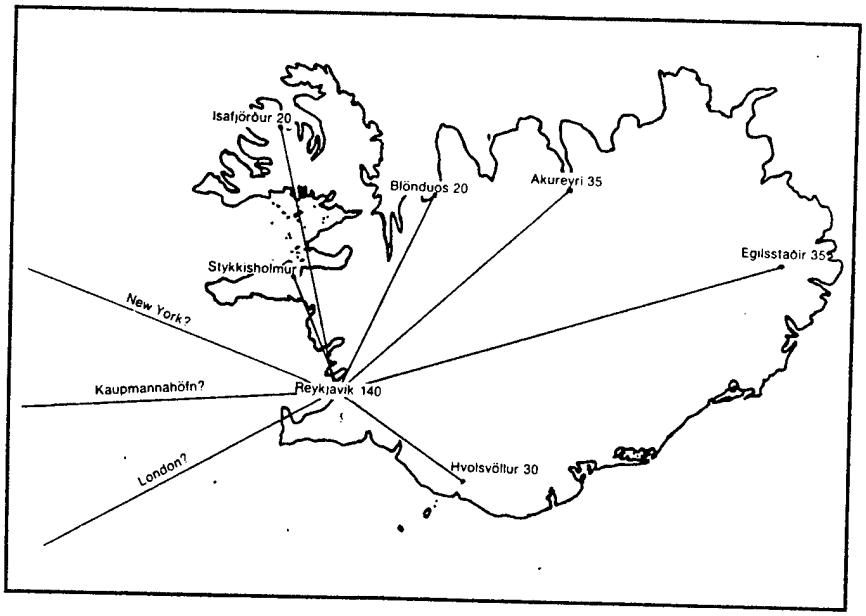
Possibilities Almost Endless

As mentioned before, special hardware and software must be available for the network, as well as rented communications lines to the closest terminal so the

subscriber can utilize all the advantages the system has to offer. The problem is, however, that all such equipment is still quite expensive and therefore not economical for those who do not use the system on a regular basis. To bridge the gap, special equipment, the so-called PAD (packet assembly/disassembly) has been installed in the local network terminals to perform what the aforementioned hardware and software normally do. This in fact means that a person who has a small personal computer system that is equipped with simple telecommunications software and a so-called modem, is able to call the nearest terminal and transmit and receive data via the PAD.

The installation of a computer network in Iceland will open up many and varied options for both companies and institutions. The data transfer will become more reliable, faster and less expensive and open up channels to computer businesses and customers abroad. Companies with many branches can utilize the network in order to get an overview of the operation at any time. It will also be possible to conduct "computer conferences" with many parties and to send mail with electronic speed and obtain useful information from foreign data banks. It should, however, be mentioned that access to many of them is extremely expensive by our standards, or up to 250,000 dollars annually.

In the wake of the computer network, various new jobs would emerge. In that respect the following might be mentioned: data bank service, both specialized and general; mass media; training courses; consultation; program banks; general business, etc. Public institutions and large concerns will save enormous sums by offering their serivces via computer network. Just imagine if, for example, all parties involved in the export-import business would offer their services via computer network. That would make it possible to release the merchandise in front of the computer screen in the office instead of with the run-around and unnecessary paper-shuffling that goes along with that today. It should be possible to buy expensive and efficient software which so far has been beyond the means of most people and to make it profitable by joint use of many parties. The University Computing Center could, for example, establish a good library of application software similar to various knowledge based systems, such as a diagnostic system for doctors--and schools and research institutes and perhaps other parties could pay for the use of the equipment. The possibilities are almost endless and much preliminary work has still to be done before they can be implemented.



Map Caption: The packet-switching network--the way it will look in Iceland. The figures indicate number of lines in each town.

9583
CSO: 5500/2742

AUTOMATIC TELEPHONES TO ARAB COUNTRIES OPERATIONAL

Lisbon O DIA in Portuguese 28 Jun 84 p 10

[Text] As of yesterday, Portugal has had automatic telephone links with Saudi Arabia, Kuwait and Bahrain. Thus, another step in implementing the plan for the automation of intercontinental telephone connections has been taken, a plan to be completed this year, with two decisive steps to be taken in July involving Angola and Israel.

According to the secretary of state for communications, Raul Junqueiro, it was also another step in implementing "the government program for the communications sector, which envisages making the country a nerve center of international communications and augmenting automatic access to the international and intercontinental networks."

It should be recalled that in 1983, Portugal had telephone connections outside of the European territory only with the United States, Brazil and the city of Maputo. Since then, the Portuguese Marconi Radio Company has carried out an effort to fulfill and follow the established policies. In that connection, the third antenna of the Sintra satellite ground station and the new Lisbon international telephone station are noteworthy among the new infrastructural components.

Recently, it has become possible to connect directly to South Africa, Venezuela, Canada, Bermuda, Japan, Macau, Hong Kong, Australia and South Korea.

The priority established in the automation is for countries where there are communities of Portuguese emigrants and also those with which there are closer economic relations.

8711
CSO: 5500/2738

CABLE TELEVISION NET EXPECTED TO EXPAND

Oslo AFTENPOSTEN in Norwegian 25 Jul 84 p 5

[Article by Morten Fyhn: "Sweden Expands Cable TV Network"]

[Text] Stockholm, 24 July--There is finally a light at the end of the tunnel for the many Swedes who long ago grew tired of the frequently less-than-inspiring programs on the two national television channels. A green light now is being given for an extensive expansion of cable TV and permission to receive programs via foreign satellites. Pay TV also is expected to be introduced.

On the other hand, advertisements on Swedish television will not occur as long as only the Conservatives and the Liberals approve of it. Nonetheless, opponents of advertising have reconciled themselves to advertising coming into homes via foreign satellites. Such advertising neither can nor should be stopped, according to the culture minister.

There have been hectic deliberations on the media front in Sweden for many years. The government mass media committee recently presented its recommendations, and it appeared that bipartisan agreement had been reached respecting the manner in which cable TV should be used. However, the committee's mandate did not allow it to consider the question of advertising--a matter over which the directors of the Swedish Radio, among others, have complained strongly.

The mass media committee asserts that there should be unqualified planning permits for cable TV. The monopoly of the national television also should be broken. Cable TV actively should be paid for by those who purchase the television programs. Thus, there is no thought of using public money for financing the cable network.

If the committee's recommendations become Swedish law--which is probable--rebroadcasting of programs from neighbor countries' television and from satellite direct transmissions also will be allowed to be sent over cable TV. Thereby, advertising will "sneak" onto Swedish television screens.

12578
CSO: 5500/2744

- END -